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REMARKS

In the Office Action of June 22, 2004, the Examiner noted that claims 1-52 are pending in the application, that claims 11 and 25-29 are allowed, and that claims 1-10, 12-24 and 30-52 are rejected. By this Amendment, no claims have been amended, and no claims are cancelled. Thus, claims 1-52 are pending in this application.

Applicant would like to initially inform the Examiner that Kato et al (US Patent Number 6,301,663B1) is not prior art under 35 U.S.C. 102(e) because Kato et al's earliest priority date is November 19, 1998, whereas the present application claims priority to U.S. provisional application 60/086132, filed May 20, 1998. In addition, Stebbings U.S. Patent No. 6,636,689 (hereinafter Stebbings), is also not prior art because it is the inventor's own work with the same priority date as the present application.

Accordingly, for this reason above, the rejection of claims 1-10, 12-24 and 30-52 should be withdrawn.

The Examiner's rejections are respectfully traversed below.

Rejection Under 35 USC § 101

Claims 1-9, 12, 13, 16-23, 30-36 and 38-42 are rejected as claiming the same invention as claimed in U.S. 6,636,689 to the same inventor and assignee. Applicant respectfully traverses this rejection.

The present invention is directed to a technique for authenticating data and/or a data medium in order to prevent unauthorized copying. More particularly, the invention makes use of

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one or more authentication keys generated using a look-up table which intentionally interferes with or alters normal output data to produced otherwise incorrect data (page 55-56). After being generated, these keys are embedded and hidden within data stored on the medium. In use, the authentication keys are identifiable by modulating the data through use of the look-up table (see, e.g., page 50). Subsequently, the keys may be used to remove modulation from the medium or, in other words, produce modulation-free or deciphered data from the medium (page 61). As such, data and/or a medium may be verified as being a legitimate copy by locating and identifying an authentication key, which may then be used to produce audio, sensible and/or usable output. Each of the independent claims rejected by the Examiner specifically recites a combination of elements including “**outputting said data as at least one of audio, video, audio data, video data and digital data substantially free of the modulation of the at least one modified modulation rule**” (e.g., independent claims 1, 12, and 13 and newly added independent claim 16) or “**wherein said at least one of said media and said data may be outputted in an analog and/or audio form substantially error free and free of said at least one modified modulation rule by at least one of an error removal process and said at least one authentication key or component thereof**” (e.g., independent claims 11, 14, and 15).

Stebbing U.S. Patent No. 6,636,689 (hereinafter Stebbings), however, does not claim the use/application of **modulation rules**. Rather, Stebbings claims “detecting the modulation of the **at least one of said pit depth, pit width and pit track.**” Accordingly, Stebbing claims a distinct invention than that being claimed in the present application which claims “modulation rule.” The use of **modulation rules** is a distinct and separate design from the use of physical modulation characteristics of the pit depth, pit width and/or pit track, as claimed in Stebbings. Accordingly, Applicant respectfully submits that Claims 1-9, 12, 13, 16-23, 30-36 and 38-42 satisfy the requirements under 35 USC § 101. Withdrawal of this rejection is respectfully requested.

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Rejections Under 35 USC § 103 In View of Stebbings, U.S. Patent 6,636,689

Claims 10, 24 and 27 are rejected under 35 USC § 103(a) as being unpatentable over Stebbings U.S. Patent No. 6,636,689 in view of Hogan U.S. Patent No. 5,828,754.

Applicant would like to initially inform the Examiner that Kato et al (US Patent Number 6,301,663B1) is not prior art under 35 U.S.C. 102(e) because Kato et al's earliest priority date is November 19, 1998, whereas the present application claims priority to U.S. provisional application 60/086132, filed May 20, 1998. Accordingly, for this reason above, the rejection of claims 13-15 and 38-52 should be withdrawn.

Rejections Under 35 USC § 103 In View of Kato et al., U.S. Patent 6,301,663

Claims 14, 15, 46, 47, 51 and 52 are rejected under 35 USC § 103(a) as being unpatentable over Kato et al. U.S. Patent No. 6,301,663 (hereinafter Kato et al.) in view of Hogan U.S. Patent No. 5,828,754.

Claims 43, 44, 48 and 49 are rejected under 35 USC § 103(a) as being unpatentable over Kato et al. U.S. Patent No. 6,301,663 (hereinafter Kato et al.) in view of Hogan U.S. Patent No. 5,828,754, and further in view of Chou et al. U.S. Patent 5,337,357.

Claims 45 and 50 are rejected under 35 USC § 103(a) as being unpatentable over Kato et al. U.S. Patent No. 6,301,663 (hereinafter Kato et al.) in view of Hogan U.S. Patent No.

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5,828,754, and further in view of O'Connor et al. U.S. Patent 5,745,568.

These rejections are respectfully traversed for the reasons discussed below.

Applicant would like to initially inform the Examiner that Kato et al (US Patent Number 6,301,663B1) is not prior art under 35 U.S.C. 102(e) because Kato et al's earliest priority date is November 19, 1998, whereas the present application claims priority to U.S. provisional application 60/086132, filed May 20, 1998. Accordingly, for this reason above, the rejection of claims 13-15 and 38-52 should be withdrawn.

The present invention is directed to a technique for authenticating data and/or a data medium in order to prevent unauthorized copying. More particularly, the invention makes use of one or more authentication keys generated using a look-up table which intentionally interferes with or alters normal output data to produced otherwise incorrect data (page 55-56). After being generated, these keys are embedded and hidden within data stored on the medium. In use, the authentication keys are identifiable by modulating the data through use of the look-up table (see, e.g., page 50). Subsequently, the keys may be used to remove modulation from the medium or, in other words, produce modulation-free or deciphered data from the medium (page 61). As such, data and/or a medium may be verified as being a legitimate copy by locating and identifying an authentication key, which may then be used to produce audio, sensible and/or usable output.

Accordingly, the Applicant submits that none of the references cited by the Examiner show or suggest the combination of features, as now recited by the limitations in the independent claims of the present invention.

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Referring now to the claims where the specific combination of elements is asserted to be patentable over the prior art when interpreted as a whole, independent claim 1 recites a combination of features directed to a "method for authenticating at least one of a media and data stored on said media, in order to prevent at least one of piracy, unauthorized access and unauthorized copying of the data stored on said media, wherein said data stored on said media is modulated via at least one modified modulation rule to generate at least one authentication key or component thereof for authenticating at least one of said media and said data." The method comprises the steps of "reading the data from said media" and "detecting the modulation of the at least one modified modulation rule associated with the data." Claim 1 also recites "deriving an embedded authentication key or component thereof responsive to said detecting step" and "comparing the embedded authentication key or component thereof, to at least one authentication key or component thereof". Claim 1 further recites "authenticating the at least one of said media and said data responsive to said comparing step" and "outputting said data as at least one of audio, video, audio data, video data and digital data substantially free of the modulation of the at least one modified modulation rule." Accordingly, the combination of features of independent claim 1, when interpreted as a whole, is submitted to patentably distinguish over the references of record.

Claim 11 is directed to "a data disc" used in "a method for authenticating at least one of a media and data stored on said media, in order to prevent at least one of piracy, unauthorized access and unauthorized copying of the data stored on said media". The data disc comprises "media containing at least one modified modulation rule comprising at least one authentication key or component thereof for authenticating at least one of said media and said data, wherein said at least one of said media and said data may be outputted in an analog and/or audio form substantially error free and free of said at least one modified modulation rule by at least one of an

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error removal process and said at least one authentication key or component thereof.”

Accordingly, the combination of features of independent claim 11, when interpreted as a whole, is submitted to patentably distinguish over the references of record.

Claim 12 relates to a data player used “in a method for authenticating at least one of a media and data stored on said media, in order to prevent at least one of piracy, unauthorized access and unauthorized copying of the data stored on said media, wherein said data stored on said media is modulated via at least one modified modulation rule to generate at least one authentication key or component thereof for authenticating at least one of said media and said data”. The data player comprises a data processor performing the steps of “reading the data from said media” and “detecting the modulation of the at least one modified modulation rule associated with the data”. Claim 12 also recites “deriving an embedded authentication key or component thereof responsive to said detecting step” and “comparing the embedded authentication key or component thereof, to at least one authentication key or component thereof”. Claim 12 further recites “authenticating at least one of said media and said data responsive to said comparing step” and “outputting said data as at least one of audio, video, audio data, video data and digital data substantially free of the modulation of the at least one modified modulation rule.” Accordingly, the combination of features of independent claim 12, when interpreted as a whole, is submitted to patentably distinguish over the references of record.

Similarly, claim 13 relates to a data message used in “a method for authenticating at least one of a media and data to be stored on said media, in order to prevent at least one of piracy, unauthorized access and unauthorized copying of the data stored on said media”, which comprises “modulation via at least one modified modulation rule to generate at least one authentication key or component thereof for authenticating said data message”. Claim 13 also recites “wherein the modified modulation rule cannot be readily altered, obscured nor removed

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from said data message without simultaneously degrading or impairing a quality of an audible component of said data message, and wherein the data message is transmitted substantially free of the modified modulation rule thereby preventing a destination processor from reading and subsequently authenticating said data message.” Accordingly, the combination of features of independent claim 13, when interpreted as a whole, is submitted to patentably distinguish over the references of record.

Claim 14 is directed to a “system for authenticating at least one of a media and data stored on said media, in order to prevent at least one of piracy, unauthorized access and unauthorized copying of the data stored on said media, wherein said data stored on said media is modulated via at least one modified modulation rule to generate at least one authentication key or component thereof for authenticating at least one of said media and said data, wherein said at least one of said media and said data may be outputted in an analog and/or audio form substantially error free and free of said at least one modified modulation rule by at least one of an error removal process and said at least one authentication key or component thereof”. Claim 14 recites “a data player containing a data processor comprising lookup table means for authenticating said at least one of said media and said data and for intentionally breaking standard modulation rules by which bit patterns are recorded as one or more symbol sequences on a data media, said lookup table means connected to a focus servo, tracking servo, laser, lens and mirror, together comprising a portion of a disc reader housed in a data player device.” Accordingly, the combination of features of independent claim 14, when interpreted as a whole, is submitted to patentably distinguish over the references of record.

Claim 15 is directed to “a system for authenticating at least one of a media and data stored on said media, in order to prevent at least one of piracy, unauthorized access and unauthorized copying of the data stored on said media, wherein said data stored on said media is

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modulated via at least one modified modulation rule to generate at least one authentication key or component thereof for authenticating at least one of said media and said data, wherein said at least one of said media and said data may be outputted in an analog and/or audio form substantially error free and free of said at least one modified modulation rule by at least one of an error removal process and said at least one authentication key or component thereof.” Claim 15 recites “said system including a data player containing a data processor comprising a lookup table used by said data processor in intentionally modifying at least one modulation rule by which at least one bit indicative of said modifying is generated as at least one symbol used by said system to authenticate said at least one of said media and said data stored on said media.” Accordingly, the combination of features of independent claim 15, when interpreted as a whole, is submitted to patentably distinguish over the references of record.

Finally, claim 16 is directed to a “system for authenticating at least one of a media and data stored on said media, in order to prevent at least one of piracy, unauthorized access and unauthorized copying of the data stored on said media, wherein said data stored on said media is modulated via at least one modified modulation rule to generate at least one authentication key or component thereof for authenticating at least one of said media and said data”. Claim 16 recites “means for reading the data from said media” and “means for detecting the modulation of the at least one modified modulation rule associated with the data”. Claim 16 also recites “means for deriving an embedded authentication key or component thereof responsive to said means for detecting” and “means for comparing the embedded authentication key or component thereof, to at least one authentication key or component thereof”. Finally, claim 16 recites “means for authenticating the at least one of said media and said data responsive to said means for comparing” and “means for outputting said data as at least one of audio, video, audio data, video data and digital data substantially free of the modulation of the at least one modified modulation rule.”

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In addition, the present invention provides benefits over the cited references of record. For example, once the modulation or modified modulation rule of present invention are removed, no further authorized copies may be made or played. In contrast, in Preuss or Rhoads removing an identification symbol has no effect on preventing copying or piracy. For these reasons as well, Applicant respectfully submits that the claims are patentable over the references of record.

Dependent Claims

Dependent claims 2-10 and 17-52 of the present application are further distinguishable over the references of record for their own additional features as well. For example, claims 5, 6, 20, and 21 indicate that the authenticating may occur using more than one authentication key. None of the references cited by the Examiner shows or suggests this feature in combination with the remaining features of the independent claims. Therefore, Applicant respectfully submits that dependent claims 2-10 and 17-52 of the present invention are patentable, for their own additional reasons, over the references of record.

For all of the reasons discussed above, withdrawal of the current rejections is respectfully requested.

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CONCLUSION

Applicant respectfully submits that, as described above, the cited prior art does not show or suggest the combination of features recited in the claims. Applicant does not concede that the cited prior art shows any of the elements recited in the claims. However, Applicant has provided specific examples of elements in the claims that are clearly not present in the cited prior art.

Applicant strongly emphasizes that one reviewing the prosecution history should not interpret any of the examples Applicant has described herein in connection with distinguishing over the prior art as limiting to those specific features in isolation. Rather, Applicant asserts that it is the combination of elements recited in each of the claims, when each claim is interpreted as a whole, which is patentable. Applicant has emphasized certain features in the claims as clearly not present in the cited references, as discussed above. However, Applicant does not concede that other features in the claims are found in the prior art. Rather, for the sake of simplicity, Applicant is providing examples of why the claims described above are distinguishable over the cited prior art.

Applicant wishes to clarify for the record, if necessary, that the claims have been amended to expedite prosecution. Moreover, Applicant reserves the right to pursue the original subject matter recited in the present claims in a continuation application.

Any narrowing amendments made to the claims in the present Amendment are not to be construed as a surrender of any subject matter between the original claims and the present claims; rather merely Applicant's best attempt at providing one or more definitions of what the

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Applicant believes to be suitable patent protection. In addition, the present claims provide the intended scope of protection that Applicant is seeking for this application. Therefore, no estoppel should be presumed, and Applicant's claims are intended to include a scope of protection under the Doctrine of Equivalents.

Further, Applicant hereby retracts any arguments and/or statements made during prosecution that were rejected by the Examiner during prosecution and/or that were unnecessary to obtain allowance, and only maintains the arguments that persuaded the Examiner with respect to the allowability of the patent claims, as one of ordinary skill would understand from a review of the prosecution history. That is, Applicant specifically retracts statements that one of ordinary skill would recognize from reading the file history were not necessary, not used and/or were rejected by the Examiner in allowing the patent application.

For all the reasons advanced above, Applicant respectfully submits that the rejections have been overcome and should be withdrawn.

For all the reasons advanced above, Applicant respectfully submits that the Application is in condition for allowance, and that such action is earnestly solicited.

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AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees, which may be required for this Amendment, or credit any overpayment to Deposit Account No. 08-0219

In the event that an Extension of Time is required, or which may be required in addition to that requested in a petition for an Extension of Time, the Commissioner is requested to grant a petition for that Extension of Time which is required to make this response timely and is hereby authorized to charge any fee for such an Extension of Time or credit any overpayment for an Extension of Time to Deposit Account No. 08-0219.

Respectfully submitted,

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Date: 12/22/04

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